

REMARKS

Claims 1 - 20 are pending in the present application. In the present Response, Applicants amend claims 1, 2, 5, 9, 12, 14, 15 and 19. No new matter is introduced.

CLAIM OBJECTIONS

Claims 2, 19, 5, 9, 12, 14, and 15 are objected to on formal grounds. Applicant thanks the Examiner for suggesting claim amendments to overcome the objections, and amends claims 2, 19, 5, 9, 12, 14, and 15 to address the identified objections. Accordingly, Applicant respectfully requests that the objections be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 1 and 2 are rejected under the second paragraph of 35 USC 112 as being indefinite. In particular, the Examiner makes reference to the phrase “(hereinafter referred as a terminal moving speed)” in claim 1, and to the phrase “(hereinafter referred as speed information)” in claim 2. Applicant amends claims 1 and 2 to omit the terms in parentheses, and to insert the word “speed” before the word “information”. Accordingly, Applicant submits that the language of amended claims 1 and 2 is definite, and respectfully requests that these rejections be withdrawn.

REJECTIONS UNDER 35 U.S.C. §§ 102, 103

Claims 1, 2, 4, 8, 11, 13, 19, and 20 are rejected under 35 USC 102(e) as being anticipated by Owada (6,014,566). Claims 3, 6, 7, 10 and 16 are rejected under 35 USC 103(a) as being unpatentable over Owada in view of Kamel (6,628,958). Claims 5, 9, 12, 14, and 15 are rejected under 35 USC 103 as being unpatentable over Owada in view of Kamel, and further in view of Huff (5,396,645). Claims 17-18 are rejected under 35 USC

103 as being unpatentable over Owada, in view of Kamel et al. in view of Huff and further in view of Gesbert (6,760,882). Applicant respectfully traverses these rejections.

Owada discloses a mobile communication system including mobile terminals and radio base stations belonging to low speed and high speed mobile communications systems, and a mobile subscriber connecting apparatus to which the radio base stations are connected. The system includes a low speed component using micro cell zones, and a high speed component using macro cell zones. Each mobile terminal includes a system mode selecting section for selecting either a first communication mode for low speed communications or a second communication mode for high speed communications.

In independent claims 1, 2, and 16 – 19, Applicant discloses a mobile communication system and associated apparatus for enabling communications between a base station and a mobile terminal in a specific radio frequency band. According to Applicant's claim 1, for example, Applicant claims:

1. A mobile communication system having a radio base station and a mobile terminal being able to communicate with said radio base station using a specific radio frequency band comprising:

a detecting unit to detect speed information concerning a moving speed of said mobile terminal on the basis of a received signal from said mobile terminal; and

a selection controlling unit to select a use frequency in a higher radio frequency band when said speed information detected by said detecting unit is higher, select a use frequency in a lower radio frequency band when said speed information is lower, and assign said selected use frequency to the communication between said mobile terminal and said radio base station.

(Emphasis added)

In sharp contrast to the Applicant's claimed system, Owada fails to disclose or otherwise suggest Applicant's claimed selection controlling unit that selects a higher frequency band for communications when a terminal moving speed is higher and selects a lower frequency band when a terminal moving speed is lower. Rather, Owada discloses

a system that selects macro cell zone communications when the mobile terminal is moving at a high speed, and selects micro cell communications when the mobile terminal is moving at a lower speed. While macro cell communication and micro cell communications may be assigned to different frequency bands (see, e.g., column 9, lines 38 to 54 of Huff), there is no disclosure in Owada, Huff or any of the other cited references that requires or otherwise suggests that the frequency bands assigned for macro cell communications and high speed movement must necessarily be higher than the frequency bands assigned for micro cell communications and low speed movement.

In addition, as illustrated by Applicant's FIGs. 5, 7, 10 and 11 and suggested by Applicant's independent claim 16, Applicant's claimed use frequency selection control unit operates to select a frequency band so that a characteristic of operation in the selected frequency band is not disadvantageously higher at a current terminal moving speed than the characteristic of operation would be in another band. For example, as illustrated in FIGs. 5, 7, 10 and 11, a relationship between the terminal moving speed and a signal to noise power ratio (E_b/N_o) is obtained, and the use frequency band is switched according to the moving speed of the terminal so that the signal to noise power ratio will not reach a peak value.

According to Applicant's invention, in a mobile communication system in which the relationship between a Doppler frequency and transmission quality deterioration is non-monotonic (for example, a mobile communication system having a signal to noise power ratio that changes from having a tendency to increase to having a tendency to decrease with increased moving speed of the terminal), it is possible to devise threshold based rules of frequency band selection that avoid operation in a band where changing terminal speed will cause a characteristic of operation in the selected band to reach a worst value. Applicant respectfully submit that none of Owada, Huff and the other cited

references, alone or on combination, disclose or suggest these features of Applicant's claimed invention.

For at least the above-cited reason, Applicants respectfully submits that independent claims 1, 2, and 16 – 19 are neither anticipated by nor made obvious by any combination of the cited references, and are therefor in condition for allowance. As each of dependent claims 3 - 15 depends from allowable independent claim 2, Applicant further submits that dependent claims 3 - 15 are each allowable for at least this reason.

CONCLUSION

In view of the above amendments and remarks, it is believed that claims 1 -20, including independent claims 1, 2, and 16 – 19, and the claims dependent therefrom, stand in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fees due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



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